



RESOURCE AND PATIENT MANAGEMENT SYSTEM

# **EHR Laboratory Package LOINC Configuration**

April 9, 2013 – Training Day & April 10 – Office Hours

Office of Information Technology (OIT)  
Division of Information Resource Management

Albuquerque and Aberdeen Remote Sessions

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## Introduction

### *Purpose of “EHR Laboratory Package LOINC Configuration” Training*

The Resource Patient Management System Electronic Health Record (RPMS EHR) is a suite of software applications designed to move most clinical transactions from paper-based to an electronic environment. The EHR uses upgrades of existing RPMS applications and clinical data, but provides a graphical user interface (GUI) that facilitates access to, and direct entry of this data by clinical users. The two most significant clinical enhancements provided by the EHR are the direct entry of orders (pharmacy, laboratory, radiology, nursing, etc.) by providers, and the on-line documentation of clinical encounter notes. In addition, the EHR will make clinical decision support tools available to providers at the point of care, and will make the medical record immediately accessible to all authorized users.

Implementation of an electronic health record (EHR) at any health care organization is a complex and lengthy process, requiring preparation and changes in essentially all areas of a medical facility. Rolling out an electronic record system at any facility will require a considerable training effort at the time of implementation, as well as an ongoing program of training and support.

This course focuses on Logical Observation Identifiers Names and Codes LOINC code configuration for the RPMS Laboratory Package.

### *Prerequisites*

This class will be oriented towards Lab Package users and/or Clinical Application Coordinator who are responsible for maintaining the Laboratory Package at their facilities. Facilities will be able to work on their own systems during the training. This course assumes that participants have limited knowledge of the RPMS Laboratory Suite (RPMS-LIS).

## Course Learning Objectives

This hands-on class provides a basic overview of the RPMS-LIS and preparation required for processing Laboratory Tests. Participants are provided with the knowledge, skills, and abilities to use the RPMS-LIS in its use and offer participants the tools necessary for processing and reporting Laboratory Tests. At the end of this session participants will be able to:

- Understand the purpose of Unified Codes for Units of Measure (UCUM)
- Use the UCUM Applications in RPMS Lab Package
- Add Logical Observation Identifiers Names and Codes (LOINC) code to Lab test in RPMS Lab Package
- Use the IHS LOINC Menu in the RPMS Lab Applications

## Instructors and Facilitators

### *Laboratory Consultants*

- Janna Morris, MPA, MT (ASCP), Office of Information Technology / United Southern and Eastern Tribe Laboratory Consultant
- Pam Spaeth, MT (ASCP), Office of Information Technology/ United Southern and Eastern Tribe Laboratory Consultant
- Jennette Chase-Wilson, MS, MT (ASCP), Office of Information Technology/ United Southern and Eastern Tribe Laboratory Consultant

**Disclosure Statements:** All of the faculty for this course have completed the disclosure process and have indicated that they have no significant financial relationships or affiliations with any product or commercial manufacturer that might constitute a conflict of interest. Additionally, they have agreed to use generic or multiple trade names when referring to medications and will identify an "off-Label" or experimental uses of medication.

### Detailed Agenda All times are Mountain Time

Day 1 – Tuesday April 9, 2013		
9:30	<b>Welcome and Introductions</b> <b>OIT USET Lab Consultants</b> At the end of this session participants should be able to: <ul style="list-style-type: none"> <li>• Review the course agenda</li> <li>• Navigate the WebEx sessions</li> <li>• Review how to enroll in class</li> <li>• Ensure Privacy and Security of Personal Health Information (PHI)</li> </ul>	
9:45	<b>LOINC Overview</b> <b>OIT USET Lab Consultants</b> At the end of this session, participants should be able to: <ul style="list-style-type: none"> <li>• Examine the purpose of UCUM</li> <li>• Identify the purpose of LOINC codes</li> <li>• Breakdown LOINC classification criteria</li> </ul>	
10:15	<b>Unified Codes for Units of Measure (UCUM) Exceptions Report</b> <b>OIT USET Lab Consultants</b> At the end of this session, participants should be able to: <ul style="list-style-type: none"> <li>• Examine IHS UCUM Exceptions Report</li> <li>• Hands on activity: Run report for each Site</li> </ul>	
10:30	<b>IHS UCUM Verification</b> <b>OIT USET Lab Consultants</b> At the end of this session, participants should be able to: <ul style="list-style-type: none"> <li>• Hands on activity: Perform IHS UCUM Verification option</li> </ul>	
11:00	<b>IHS LOINC File 60 Reports</b> <b>OIT USET Lab Consultants</b> At the end of this session, participants should be able to: <ul style="list-style-type: none"> <li>• Examine IHS LOINC File 60 Report Options</li> <li>• Hands on activity: Run report for each Site</li> </ul>	
11:30	<b>IHS LOINC Auto-Mapper</b> <b>OIT USET Lab Consultants</b> At the end of this session, participants should be able to: <ul style="list-style-type: none"> <li>• Examine Auto-Mapper Report Option</li> <li>• Hands on activity: Run auto-mapper for each Site</li> </ul>	
12:00	<b>IHS LOINC File 60 Reports</b> <b>OIT USET Lab Consultants</b> At the end of this session, participants should be able to: <ul style="list-style-type: none"> <li>• Hands on activity: Re-Run report for each Site</li> </ul>	

	<ul style="list-style-type: none"> <li>Save report for Manual Mapping</li> </ul>	
12:30	<b>Lunch</b>	
1:30	<b>IHS LOINC Manual Mapper</b> <b>OIT USET Lab Consultants</b> At the end of this session, participants should be able to: <ul style="list-style-type: none"> <li>Examine manual mapping process</li> <li>Download RELMA mapping tool</li> <li>Hands on activity: Manually map LOINC codes for each Site</li> </ul>	
4:30	<b>Adjourn</b> <ul style="list-style-type: none"> <li>Wrap-up</li> </ul>	

<b>Day 2 – Wednesday April 10, 2013</b> <b>Office Hours</b>		
9:30	<b>Morning Greeting</b> <ul style="list-style-type: none"> <li>Questions from yesterday</li> </ul>	
9:45-3:30	<b>Office Hours</b>	
3:30	<b>Adjourn</b> <b>Wrap-up</b>	

## Biographical Sketches

### **Janna Morris, MPA, MT(ASCP)**

#### **Office of Information Technology EHR Laboratory Consultant**

Janna Morris is a Medical Technologist in the United States Public Health Service and has worked in the Indian Health Service since 1982. Janna is a certified Medical Technologist and formally served as the Laboratory Manager at Rapid City Indian Hospital. Janna has been involved in reference lab interfacing since the early 1990s, and is now currently assigned to OIT as a National Laboratory Medical Informatics Consultant.

### **Pam Spaeth, MT(ASCP)**

#### **IHS OIT Laboratory Consultant**

Pam is a Medical Technologist, receiving her BS in Medical Technology and Chemistry at Concordia College, in Moorhead, Minnesota. She started her career as the Blood Bank Supervisor at a local hospital, from 1976 until 1988. In 1988 she came to the White Earth Health Center in Ogema, Minnesota as the Laboratory Supervisor. She has supervised the Laboratory for 21 years, until recently accepting the position for one of the OIT ARRA MT Consultants. She was on the first Laboratory team to be trained for the RPMS Lab Package at PIMC in 1995. White Earth went live with that in 1996. She was also the PCC+ lead and one of three CACs for the implementation of EHR, which White Earth has been using since May of 2007. She has been a member of the IHS Laboratory PSG since it began.

### **Jennette Chase-Wilson, MS, MLS(ASCP)**

#### **IHS OIT Laboratory Consultant**

Jennette (Jennie) Chase-Wilson received her BS in Microbiology from San Diego State University and interned at Mercy Hospital School of Medical Technology in San Diego. She received her MS in Microbiology from Montana State University. She joined the Indian Health Service in 1986 after 13 years in the private sector. Her experience in IHS has taken her from Ft. Belknap, Montana, to White river Indian Hospital, Arizona, to Yakama Service Unit, Washington, and finally to Warm Springs Health and Wellness Center in Oregon. Jennie served as Infection Control Officer at WSSU and Yakama IHS and was active on many committees throughout the years. Jennie served Portland Area Office as Assistant Project Officer for the Quest Reference Laboratory Contract 2004 - 2009. Jennie has been the Laboratory Supervisor at Warm Springs Health and Wellness Center for 11 years. During her time as lab supervisor, the laboratory became more heavily automated and computerized, expanded staffing, began a NHCA Phlebotomy Training Program, and increased the in-house test menu by 95%. The overall workload expanded more than 100%. Jennie completed the install of RPMS in 1999 in the lab. Electronic Health Records began at Warm Springs in 2004. In 2006, she and her staff developed a procedure in EHR that virtually eliminated “Lab Orphans” at WSSU. In 2007, the installation of the Quest Reference Lab Interface was begun and is now 98% interfaced. This year saw the successful implementation of EHR-POCT. Jennie has been proactive in training and advancement of all phases of POCT, working with the CAC and nursing staff to expand and perfect the process.



## Background

On February 17, 2009, President Barack H. Obama signed into law the American Recovery and Reinvestment Act of 2009 (ARRA). ARRA provides incentives to encourage hospitals and office-based physicians to adopt EHRs and other health information technology (HIT) solutions that reduce costs by improving quality, safety, and efficiency. ARRA contains numerous technology and privacy provisions with aggressive timelines for completion. Many of these ARRA milestones are related to the standards and work of the Healthcare Information Technology Standards Panel.

### *Health Information Technology for Economic and Clinical Health Act*

The Health Information Technology for Economic and Clinical Health Act (HITECH) is a focal point of ARRA and represents an investment of more than \$19 billion towards healthcare information technology (IT)-related initiatives. The \$19 billion dedicated to HITECH is divided into two portions: (a) \$17 billion toward a Medicare/Medicaid incentive reimbursement program for both healthcare organizations and providers who can demonstrate “meaningful use” of an approved EHR; and (b) \$2 billion available to providers located in qualifying rural areas, providers serving underserved urban communities, and Indian tribes. Meaningful use of an approved EHR will be required in order for providers to qualify for, and continue to receive, incentives.

### *Incentive Payments*

ARRA will provide incentive payments through Medicare and Medicaid reimbursement systems to encourage providers and hospitals to adopt EHRs and HIT. Hospitals that demonstrate meaningful use of certified EHRs and other HIT may be eligible for between \$2 million and \$8 million. Incentive payments are triggered when a provider or hospital demonstrates that it has become a “meaningful EHR user.” The highest incentive payments will be granted to hospitals that adopt EHR technology in the years 2011, 2012, or 2013. Reduced incentive payments are granted to hospitals that adopt EHR technology in the years 2014 or 2015, while no incentive payments are granted to hospitals that adopt EHR technology after 2015. Providers and hospitals that fail to meet this time limit will be subject to penalties in the form of reduced Medicare reimbursement payments beginning in 2017.

### *Meaningful Use*

Meaningful Use (MU) is a term used by CMS to ensure that providers and hospitals that have adopted certified EHR are using the technology to further the goals of information exchange among health care professionals. EPs (eligible providers) and EHs (eligible hospitals) will achieve meaningful use if they: (a) demonstrate use of certified EHR technology in a meaningful manner, (b) demonstrate the certified EHR technology provides for electronic exchange of health information to improve quality of care, and (c) use certified EHR technology to submit information on clinical quality and other measures.

Achieving meaningful use will be accomplished in three stages. Stage 1 will begin in 2011, Stage 2 will begin in 2013, and Stage 3 will begin in 2015. The criteria for achieving meaningful use will increase with each stage and will build upon the prior stage. Medicare and/or Medicaid incentives are available to providers and hospitals who become meaningful users of certified EHR technology, with the maximum incentives being given to EPs and hospitals that become meaningful users in Stage 1. Hospitals may be eligible for both Medicare and Medicaid incentives but EPs must choose between the two incentive programs.

For the 2011 Medicare incentives, EPs must report on three core measures and a set of specialty measures which vary depending on the EP's specialty. Eligible hospitals must report on a set of 35 measures that includes emergency department, stroke, and VTE, among other measures. Reporting of clinical quality measures in 2011 will be accomplished by attestation. Beginning in 2012 for both Medicare and Medicaid incentives, EPs and hospitals must submit information electronically on both the health IT functionality and clinical quality measures.

### ***Meaningful Use Standards and Measures***

As required to achieve MU, eligible hospitals (EH) and eligible providers (EP) must report their performance on two types of measures: (a) functional and interoperability measures and (b) clinical quality measures.

The functional and interoperability measures aim to improve quality, safety, efficiency and reduce health disparities. Reporting periods for measures include (a) a continuous 90 day period for the first year and (b) the entire year for all other years. There are 25 measures for EPs: eight measures require a "Yes" or "No" answer while 17 measures require both a numerator and denominator. Eligible Hospitals require 23 measures: ten measures requiring a "Yes" or "No" answer and 13 requiring a numerator and denominator.

Table 1: Summary Overview of Meaningful Use Core Set Objectives

<b>Short Name</b>	<b>Objective:</b>	<b>Measure:</b>
Demographics	Record demographics: preferred language, gender, race and ethnicity, date of birth, and date of death and preliminary cause of death in the event of mortality in the eligible hospital or CAH.	More than 50% of all unique patients seen by the EP or admitted to the eligible hospital's or CAH's inpatient or emergency departments (POS 21 or 23) have demographics recorded as structured data. (EPs, EHs & CAHs)
Vital signs	Record and chart changes in the following vital signs: Height, weight and blood pressure and calculate and display body mass index (BMI) for ages 2 and over, plot and display growth charts for children 2-20 years, including BMI.	For more than 50% of all unique patients age 2 and over seen by the EP or admitted to eligible hospital's or CAH's inpatient or emergency departments (POS 21 or 23), height, weight, and blood pressure are recorded as structured data. (EPs, EHs & CAHs)

Short Name	Objective:	Measure:
Problem List	Maintain up-to-date problem list of current and active diagnoses.	More than 80% of all unique patients seen by the EP or admitted to the eligible hospital's or CAH's inpatient or emergency departments (POS 21 or 23) have at least one entry or an indication that no problems are known for the patient recorded as structured data. (EPs, EHs & CAHs)
Medication List	Maintain active medication list.	More than 80% of all unique patients seen by the EP or admitted to the eligible hospital's or CAH's inpatient or emergency departments (POS 21 or 23) have at least one entry (or an indication that the patient is not currently prescribed any medication) recorded as structured data. (EPs, EHs & CAHs)
Medication Allergy List	Maintain active medication allergy list.	More than 80% of all unique patients seen by the EP or admitted to the eligible hospital's or CAH's inpatient or emergency departments (POS 21 or 23) have at least one entry (or an indication that the patient has no known medication allergies) recorded as structured data. (EPs, EHs & CAHs)
Smoking Status	Record smoking status for patients age 13 or older.	More than 50% of all unique patients 13 years old or older seen by the EP or admitted to the eligible hospital's or CAH's inpatient or emergency departments (POS 21 or 23) have smoking status recorded as structured data. (EPs, EHs & CAHs)
Clinical Summaries	Provide clinical summaries for patients for each office visit.	Clinical summaries provided to patients for more than 50% of all office visits within 3 business days. (EPs Only)
Electronic Copy of Health Information	Provide patients with an electronic copy of their health information (including diagnostic test results, problem list, medication lists, medication allergies, discharge summary, procedures) upon request.	More than 50% of all patients seen by the EP or of the eligible hospital's or CAH's inpatient or emergency departments (POS 21 or 23) who request an electronic copy of their health information are provided it within 3 business days. (EPs, EHs & CAHs)
ePrescribing	Generate and transmit permissible prescriptions electronically.	More than 40% of all permissible prescriptions written by the EP are transmitted electronically using certified EHR technology. (EPs Only)

Short Name	Objective:	Measure:
CPOE Medication	Use CPOE for medication orders directly entered by any licensed healthcare professional who can enter orders into the medical record per state, local, and professional guidelines.	More than 30% of all unique patients with at least one medication in their medication list seen by the EP or admitted to the eligible hospital's or CAH's inpatient or emergency departments (POS 21 or 23) during the EHR reporting period have at least one medication order entered using CPOE.  NOTE: In Stage 2, the measure target increases to 60%. ( <i>EPs, EHs &amp; CAHs</i> )
Drug-Drug & Drug-Allergy Checks	Implement drug-drug and drug-allergy interaction checks.	Functionality is enabled for these checks for the entire reporting period. ( <i>EPs, EHs &amp; CAHs</i> )
Clinical Decision Support	For EPs, implement one clinical decision support rule relevant to specialty or high clinical priority. For eligible hospital or CAH implement one related to a high priority hospital condition along with the ability to track compliance with that rule.	Implement one clinical decision support rule. ( <i>EPs, EHs &amp; CAHs</i> )
Privacy/Security	Protect electronic health information created or maintained by the certified EHR technology through the implementation of appropriate technical capabilities.	Conduct or review a security risk analysis per 45 CFR 164.308 (a)(1) of the certified EHR technology, and implement security updates and correct identified security deficiencies as part of its risk management process. ( <i>EPs, EHs &amp; CAHs</i> )
CQM	Report ambulatory and hospital clinical quality measures to CMS or, in the case of Medicaid, to the States.	Successfully report to CMS (or, in the case of Medicaid, to the States) ambulatory and hospital clinical quality measures selected by CMS in the manner specified by . ( <i>EPs, EHs &amp; CAHs</i> )
Exchange of Key Clinical Information	Capability to exchange key clinical information (for example, discharge summary, procedures, problem list, medication list, medication allergies, diagnostic test results), among providers of care and patient's authorized entities electronically.	Performed at least one test of certified EHR technology's capacity to electronically exchange key clinical information. ( <i>EPs, EHs &amp; CAHs</i> )
Electronic Copy of Discharge Instructions	Provide patients with an electronic copy of their discharge instructions at the time of discharge, upon request.	More than 50% of all patients who are discharged from an eligible hospital's or CAH's inpatient or emergency departments (POS 21 or 23) and who request an electronic copy of their discharge instructions are provided it. ( <i>Hospitals Only</i> )

Table 2: Summary Overview of Menu Set Meaningful Use Objectives

Short Name	Objective:	Measure:
Drug-Formulary Checks	Implement drug formulary checks.	The EP, eligible hospital/CAH has enabled this functionality and has access to at least one internal or external formulary for the entire EHR reporting period. (EPs, EHs & CAHs)
Lab Results into EHR	Incorporate clinical laboratory test results in EHRs as structured data.	More than 40% of all clinical lab test results ordered by an EP or authorized provider of the eligible hospital or CAH for patients admitted to its inpatient or emergency departments (POS 21 or 23) during the EHR reporting period whose results are either in a positive/negative or numerical format are incorporated in certified EHR technology as structured data. (EPs, EHs & CAHs)
Patient List	Generate lists of patients by specific conditions to use for quality improvement, reduction of disparities, research, or outreach.	Generate at least one report listing patients of the EP, eligible hospital, or CAH with a specific condition. (EPs, EHs & CAHs)
Patient-Specific Education	Use EHR technology to identify patient-specific education resources and provide those to the patient as appropriate.	More than 10% of all unique patients seen by the EP or admitted to the eligible hospital's or CAH's inpatient or emergency departments (POS 21 or 23) are provided patient-specific education resources. (EPs, EHs & CAHs)
Medication Reconciliation	The EP, EH or CAH who receives a patient from another setting of care or provider of care or believes an encounter is relevant should perform medication reconciliation.	The EP, eligible hospital or CAH performs medication reconciliation for more than 50% of transitions of care in which the patient is transitioned into the care of the EP or admitted to the eligible hospital's or CAH's inpatient or emergency departments (POS 21 or 23). EPs, EHs & CAHs)
Summary of Care	The EP who transitions their patient to another setting of care or provider of care or refers their patient to another provider of care should provide summary of care record for each transition of care or referral.	The EP, EH or CAH that transitions or refers their patient to another setting of care or provider of care provides a summary of care record for more than 50% of transitions of care and referrals. (EPs, EHs & CAHs)

<b>Short Name</b>	<b>Objective:</b>	<b>Measure:</b>
Advance Directives	Record advance directives for patients 65 years old or older.	More than 50% of all unique patients 65 years old or older admitted to the eligible hospital's or CAH's inpatient department (POS 21) have an indication of an advance directive status recorded as structured data. <i>(Hospitals Only)</i>
*Immunization Registries	Capability to submit electronic data to immunization registries or Immunization Information Systems and actual submission in accordance with applicable law and practice.	Performed at least one test of certified EHR technology's capacity to submit electronic data to immunization registries and follow-up submission if the test is successful (unless none of the immunization registries to which the EP, EH or CAH submits such information have the capacity to receive the information electronically.) <i>(EPs, EHs &amp; CAHs)</i>
Patient Reminders	Send reminders to patients per patient preference for preventive/follow-up care.	More than 20% of all unique patients 65 years old or older or 5 years old or younger were sent an appropriate reminder during the EHR reporting period. <i>(EPs Only)</i>
Timely Electronic Access to Health Information	Provide patients with timely electronic access to their health information (including lab results, problem list, medication lists, and medication allergies) within four (4) business days of the information being available to the EP.	At least 10% of all unique patients seen by the EP are provided timely (available to the patient within four (4) business days of being updated in the certified EHR technology) electronic access to their health information subject to the EP's discretion to withhold certain information. <i>(EPs Only)</i>
<b>*Submit Lab Results to Public Health Agencies</b>	<b>Capability to submit electronic data on reportable (as required by state or local law) lab results to public health agencies and actual submission in accordance with applicable law and practice.</b>	<b>Performed at least one test of certified EHR technology's capacity to provide electronic submission of reportable lab results to public health agencies and follow-up submission if the test is successful (unless none of the public health agencies to which eligible hospital or CAH submits such information have the capacity to receive the information electronically.) <i>(Hospitals Only)</i></b>

Short Name	Objective:	Measure:
<b>*Syndromic Surveillance</b>	<b>Capability to submit electronic syndromic surveillance data to public health agencies and actual submission in accordance with applicable law and practice.</b>	<b>Perform at least one test of certified EHR technology's capacity to provide electronic syndromic surveillance data to public health agencies and follow-up submission if the test is successful (unless none of the public health agencies to which EP, EH or CAH submits such information have the capacity to receive the information electronically.). (<i>EPs, EHs &amp; CAHs</i>)</b>
* All EPs, EHs, and CAHs must choose at least one of these populations and public health measures to demonstrate as part of the menu sets.		

## Contact Information

If you have any questions or comments regarding this distribution, please contact the OIT Help Desk (IHS).

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